RESEARCH REPORT DOCUMENTATION PAGE

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5. Title and Subtitle

Use of Texcote XL-70C Bridge Cote as a Concrete Surface Finish and Curing Compound

6. Report Type

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- Construction ☒
- Evaluation ☐
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11. Author(s)/Principle Investigator(s)

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- NDDOT OTHER* ☐
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*see supplementary notes

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13. Sponsoring Agency Name and Address

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14. Supplementary Notes

15. Abstract

Purpose and Need

To produce an aesthetically pleasing surface finish on visible concrete, such as jersey barriers and bridge fascias, the NDDOT specifies Surface Finish "D" (specification 602.03 I.5). Before Surface Finish "D" may be applied the concrete must complete the curing period of seven days. NDDOT Specification 602.03 F does not allow the use of liquid forming curing compounds on concrete surfaces that will receive Surface Finish "D". Concrete that will receive Surface Finish "D" must either have forms kept in placed or be wet cured until the completion of the curing period.

Surface Finish "D" requires that after the completion of the curing period of the concrete, the surface of the concrete is sandblasted, to roughen the surface, and then a surface finish material is applied. The surface finish material consists of an application, or applications, of a cement-based, commercially-packaged masonry coating material.

An alternative to a cement-based coating is Texcote XL-70C Bridge Cote.
XL-70C is a polymer based organic resin system that contains a curing compound. Because it contains a curing compound, the manufacturer maintains that the product may be applied during the curing period. It does not require sandblasting of the concrete surface prior to application and requires only one coat. The manufacturer reports that another major benefit of this product is that it produces a uniform color coating that is less "splotchy" than is often seen with cement-based coatings.

Objective

The objective of this project is to determine if Texcote XL-70C Bridge Cote will produce an aesthetically pleasing and durable surface finish for concrete and the results of this evaluation may be used to determine if a change in the current specification for Surface Finish "D" should be considered.

Summary

There was some difficulty applying the XL-70C until the equipment was set-up correctly. When observed approximately 5 weeks after application the color appeared uneven. The uneven color was probably a result of the spray pattern used by the applicators. The control section with the cement-based material also appeared uneven and blotchy. The material was tested for its ability to act as a curing compound and did not meet requirements of AASHTO T-155 when tested by NDDOT. AASHTO T-155 is a laboratory test to determine the ability of a curing compound to retain water in curing concrete.

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